

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

# 2SC2982

Storobo Flash Applications  
 Medium Power Amplifier Applications

- High DC current gain and excellent linearity
  - :  $h_{FE(1)} = 140$  to  $600$  ( $V_{CE} = 1$  V,  $I_C = 0.5$  A)
  - :  $h_{FE(2)} = 70$  (min),  $140$  (typ.), ( $V_{CE} = 1$  V,  $I_C = 2$  A)
- Low saturation voltage
  - :  $V_{CE(sat)} = 0.5$  V (max) ( $I_C = 2$  A,  $I_B = 50$  mA)
- Small flat package
- $P_C = 1.0$  to  $2.0$  W (mounted on ceramic substrate)
- Complementary to 2SA1314

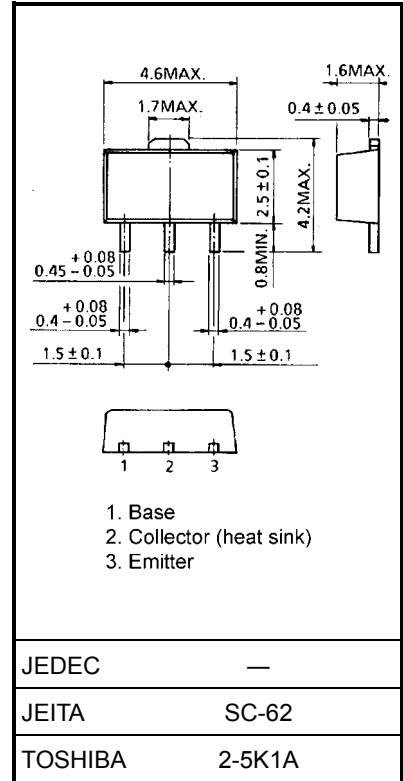
### Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	30	V
Collector-emitter voltage		$V_{CES}$	30	V
		$V_{CEO}$	10	
Emitter-base voltage		$V_{EBO}$	6	V
Collector current	DC	$I_C$	2	A
	Pulse (Note 1)	$I_{CP}$	4	
Base current	DC	$I_B$	0.4	A
	Pulse (Note 1)	$I_{BP}$	0.8	
Collector power dissipation		$P_C$	500	mW
		$P_C$ (Note 2)	1000	
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ\text{C}$

Note 1: Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

Note 2: 2SC2982 mounted on ceramic substrate ( $250\text{ mm}^2 \times 0.8$  t)

Unit: mm



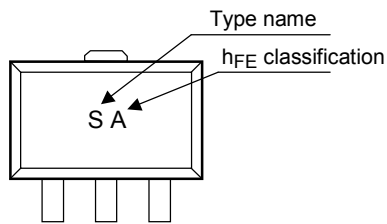
Weight: 0.05 g (typ.)

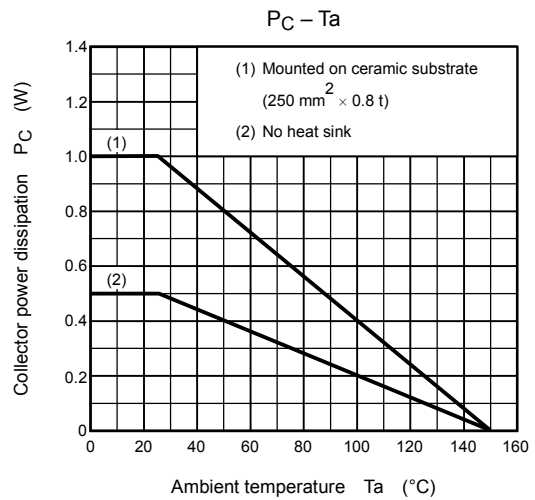
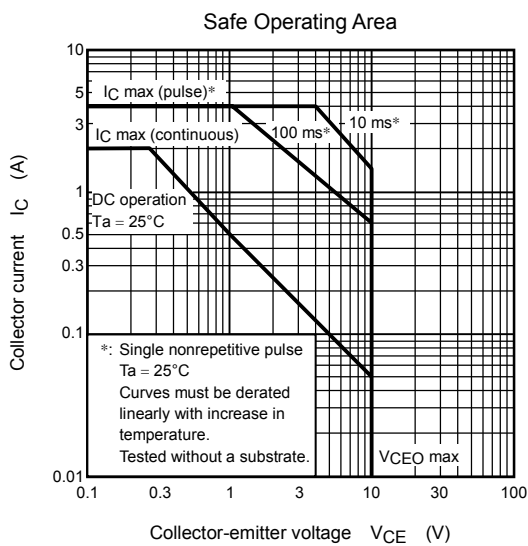
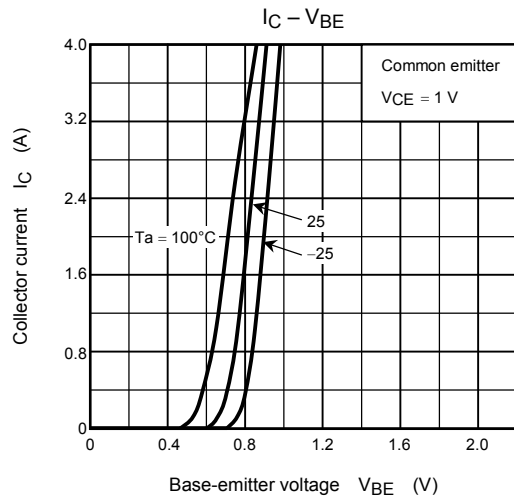
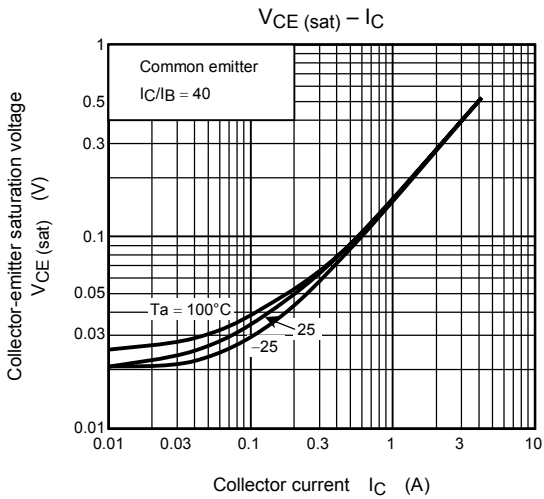
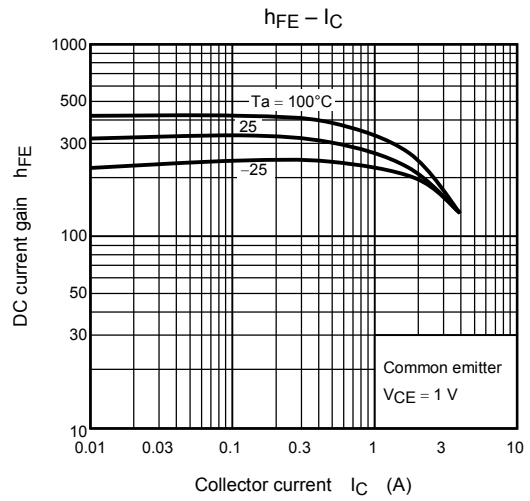
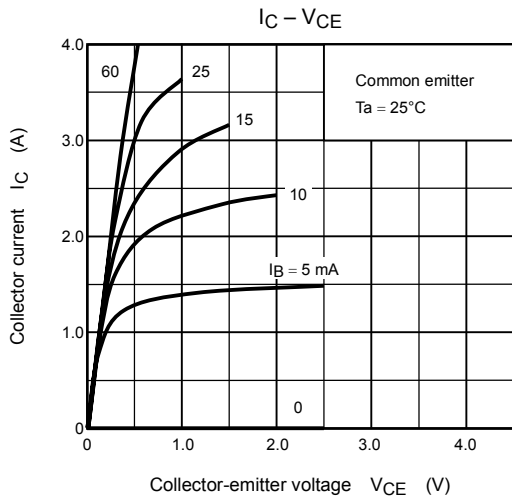
## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 30\text{ V}, I_E = 0$	—	—	0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 6\text{ V}, I_C = 0$	—	—	0.1	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	10	—	—	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 1\text{ mA}, I_C = 0$	6	—	—	V
DC current gain	$h_{FE(1)}$ (Note 3)	$V_{CE} = 1\text{ V}, I_C = 0.5\text{ A}$	140	—	600	—
	$h_{FE(2)}$	$V_{CE} = 1\text{ V}, I_C = 2\text{ A}$	70	140	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2\text{ A}, I_B = 50\text{ mA}$	—	0.2	0.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 1\text{ V}, I_C = 2\text{ A}$	—	0.86	1.5	V
Transition frequency	$f_T$	$V_{CE} = 1\text{ V}, I_C = 0.5\text{ A}$	—	150	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	27	—	pF

Note 3:  $h_{FE(1)}$  classification A: 140 to 240, B: 200 to 330, C: 300 to 450, D: 420 to 600

## Marking





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